EXAMINER'S AMENDMENT

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12 February 2010 has been entered.

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Scott D. Malpede on 29 September 2011. During that interview, the examiner proposed a number of claim amendments to the independent claims deemed necessary to clearly distinguish the claimed invention from the cited prior art and to more closely associate the claimed invention with **Figures 1-4** of the applicant's disclosure. The examiner reasoned that alternating reset and write drive schemes for electrophoretic

displays are well covered in the prior art. Further, the prior art has shown that the implementation of similarly colored and oppositely charged particles is well known in the art. The examiner stated that the distinguishing feature of the disclosed invention appears to be the specific application of the reset and display voltages and the alternating succession of the disclosed driving scheme. The applicant agreed that the proposed amendments would further prosecution.

3. The application has been amended as follows:

4. Amended **Claim 13** now reads:

13. A display apparatus, comprising:

a first substrate upon which is situated [[provided with]] a closed container;

first and second charged particles which are held in the closed container and [[having]] have mutually different charge polarities and a substantially identical color; and

first, second and third electrodes for generating an electric field in the closed container wherein the second and third electrodes are substantially the same size and the first electrode is larger than the second and third electrodes, with the first electrode being disposed on the first substrate and with the second and third electrodes being

disposed on opposite sides of the closed container and perpendicular to or across from the first electrode;

wherein said display apparatus successively and alternately executes a first display operation and a second display operation,

wherein in the first display operation, the first charged particles are collected on [[a]] the first electrode [[side]] by applying a first display voltage to the first electrode, a second display voltage to the second electrode and a third display voltage to the third electrode, wherein at least one of the second and third display voltages is a ground voltage, [[changing a voltage applied to the second electrode or the third electrode]] after a first reset operation in which the [[the]] first and second charged particles are collected on the [[a]] second electrode [[side]] and on the [[a]] third electrode [[side]] by applying a first reset voltage to the first electrode, a second reset [[first]] voltage to [[between]] the second electrode and a third reset voltage to the third electrode wherein the second reset voltage and the third reset voltage have substantially equal magnitude and opposite polarity, and

wherein in the second display operation, the second charged particles are collected on the first electrode [[side]] by applying a fourth display voltage to the first electrode and by applying a fifth display voltage to the second electrode and a sixth display voltage to the third electrode, wherein at least one of the fifth and sixth display voltages is a ground voltage, [[changing a voltage applied to the second electrode or the third electrode]] after a second reset operation in which the first and second charged particles are collected on the second electrode [[side]] and on the third electrode [[side]]

by applying a [[second voltage,]] fourth reset voltage to the first electrode, and by applying a fifth reset voltage to the second electrode and a sixth reset voltage to the third electrode, wherein the fifth reset voltage and the sixth reset voltage are, respectively, of substantially equal magnitude and opposite in polarity to the second reset voltage and the third reset voltage [[first voltage]] applied in the first reset operation[[, between the second electrode and the third electrode and by applying a voltage, opposite in polarity to that applied in the first reset operation, to the second electrode and to the third electrode]].

5. Amended **Claim 16** now reads:

16. A driving method for driving a display apparatus comprising: a first substrate upon which is situated [[provided with]] a closed container, first and second charged particles which are held in the closed container and which have opposite charge polarities and a substantially identical color, and first, second and third electrodes for generating an electric field in the closed container wherein the second and third electrodes are substantially the same size and the first electrode is larger than the second and third electrodes, the first electrode being disposed on the first substrate and the second and third electrodes being disposed on opposite sides of the closed container and perpendicular to or across from the first electrode; said driving method comprising the steps of:

successively and alternately executing a first display operation and a second display operation,

wherein in the first display operation, the first charged particles are collected on [[a]] the first electrode [[side]] by applying a first display voltage to the first electrode, a second display voltage to the second electrode and a third display voltage to the third electrode, wherein at least one of the second and third display voltages is a ground voltage, [[changing a voltage applied to the second electrode or the third electrode]] after a first reset operation in which the first charged particles are collected on the [[a]] second electrode [[side]] and the second charged particles are collected on the [[a]] third electrode [[side]] by applying a first reset voltage to the first electrode, a second reset [[first]] voltage to [[between]] the second electrode and a third reset voltage to the third electrode wherein the second reset voltage and the third reset voltage have substantially equal magnitude and opposite polarity, and

wherein in the second display operation, the second charged particles are collected on the first electrode [[side]] by applying a fourth display voltage to the first electrode and by applying a fifth display voltage to the second electrode and a sixth display voltage to the third electrode, wherein at least one of the fifth and sixth display voltages is a ground voltage, [[changing a voltage applied to the second electrode or the third electrode]] after a second reset operation in which the second charged particles are collected on the second electrode [[side]] and the first charged particles are collected on the third electrode [[side]] by applying a [[second voltage,]] fourth reset voltage to the first electrode, and by applying a fifth reset voltage to the second

electrode and a sixth reset voltage to the third electrode, wherein the fifth reset voltage and the sixth reset voltage are, respectively, of substantially equal magnitude and opposite in polarity to the second reset voltage and the third reset voltage [[first voltage]] applied in the first reset operation [[, between the second electrode and the third electrode and by applying a voltage, opposite in polarity to that applied in the first reset operation, to the second electrode and to the third electrode]].

Allowable Subject Matter

6. **Claims 13-16** (now renumbered **Claims 1-4**) are allowed.

7. The following is an examiner's statement of reasons for allowance: none of the references relied upon by the examiner, considered alone or in reasonable combination, teach or fairly suggest the combination of limitations recited by independent **Claims 13 and 16** (now renumbered **Claims 1 and 4**). In particular, none of the references relied upon by the examiner teach or fairly suggest a display apparatus and associated method for driving a display apparatus comprising "first and second charged particles which… have mutually different charge polarities and a substantially identical color; and first, second and third electrodes… wherein said display apparatus successively and alternately executes a first display operation and a second display operation" wherein the "first display operation" comprises "applying a first display voltage to the first

electrode, a second display voltage to the second electrode and a third display voltage to the third electrode, wherein at least one of the second and third display voltages is a ground voltage, after a first reset operation" wherein the "first reset operation" comprises "applying a first reset voltage to the first electrode, a second reset voltage to the second electrode and a third reset voltage to the third electrode wherein the second reset voltage and the third reset voltage have substantially equal magnitude and opposite polarity" and wherein "the second display operation" comprises "applying a fourth display voltage to the first electrode" and "applying a fifth display voltage to the second electrode and a sixth display voltage to the third electrode, wherein at least one of the fifth and sixth display voltages is a ground voltage after a second reset operation" wherein "the second reset operation" comprises "applying a fourth reset voltage to the first electrode" and "applying a fifth reset voltage to the second electrode and a sixth reset voltage to the third electrode, wherein the fifth reset voltage and the sixth reset voltage are, respectively, of substantially equal magnitude and opposite in polarity to the second reset voltage and the third reset voltage applied in the first reset operation."

As pertaining to the most relevant prior art relied upon by the examiner, Johnson (US 2005 / 0270267) discloses (see Fig. 1 and Figs. 2A-2C) an electrophoretic display apparatus and associated method of driving comprising: two types of charged particles (i.e., see (14, 14')) held in a closed container and having mutually different charge polarities (i.e., positive and negative charge polarities) and a substantially identical color (i.e., black, for example) and first, second and third electrodes (i.e., see (7, 6, 6')) for generating an electric field in the container (again, see Figs. 2A-2C) wherein the display

apparatus alternately executes a first display operation (i.e., see (Vn) in Fig. 4, for example) and a second display operation (i.e., see (Vn+1) in Fig. 4, for example), wherein in the first display operation, the charged particles (i.e., see (14, 14')) create a first distribution (i.e., see Figs. 2A-2C) after a first reset operation (i.e., see (40) in Fig. 4, for example) and wherein in the second display operation, the charged particles (i.e., see (14, 14')) create a second distribution (i.e., see Figs. 2A-2C) after a second reset operation (see Page 2 through Page 3, Para. [0027]-[0030] and Abstract).

Kishi (US 2003 / 0231162) discloses (see Fig. 1, Figs. 7A-7F) an electrophoretic display apparatus and method of driving comprising: two types of charged particles (i.e., see (41, 42)) held in a closed container and having mutually different charge polarities (i.e., positive and negative charge polarities) and first, second and third electrodes (i.e., see ((21 or 22), 31, 32)) for generating an electric field in the container (again, Figs. 7A-7F) wherein the display apparatus alternately executes a first display operation (i.e., see Figs. 7A-7C, for example) and a second display operation (i.e., see Figs. 7A, and Figs. 7D-7E, for example), wherein in the first display operation, the charged particles (i.e., see (41, 42)) create a first distribution (i.e., see Figs. 7B-7C) after a first reset operation (i.e., see Fig. 7A, for example) and wherein in the second display operation, the charged particles (i.e., see (41, 42)) create a second distribution (i.e., see Figs. 7D-7E) after a second reset operation (see Fig. 7A, for example); wherein the first display operation comprises (see Fig. 7C, for example) applying a first display voltage (i.e., (+20V)) to the first electrode (21), a second display voltage (i.e., (0V)) to the second electrode (31) and a third display voltage (i.e., (0V)) to the third electrode (32),

wherein at least one of the second and third display voltages (0V) is a ground voltage, after a first reset operation wherein the first reset operation comprises (see Fig. 7A) applying a first reset voltage (i.e., (0V)) to the first electrode (21), a second reset voltage (i.e., (+20V)) to the second electrode (31) and a third reset voltage (i.e., (-20V)) to the third electrode (32) wherein the second reset voltage (+20V) and the third reset voltage (-20V) have substantially equal magnitude and opposite polarity and wherein the second display operation (see Fig. 7D) comprises applying a fourth display voltage (i.e., (0V)) to the first electrode (21) and applying a fifth display voltage (0V) to the second electrode (31) and a sixth display voltage (0V) to the third electrode (32), wherein at least one of the fifth and sixth display voltages (0V) is a ground voltage after a second reset operation wherein the second reset operation comprises (see Fig. 7A) applying a fourth reset voltage (0V) to the first electrode (21) and applying a fifth reset voltage (+20V) to the second electrode (31) and a sixth reset voltage (-20V) to the third electrode (32; also see Page 4, Para. [0061] and Page 5 through Page 6, Para. [0068]-[0077]).

However, neither Johnson nor Kishi, nor any other references relied upon by the examiner, teach or fairly suggest a display apparatus and driving method comprising first and second charged particles which have mutually different charge polarities and a substantially identical color wherein the display apparatus successively and alternately executes the claimed first display operation and the claimed second display operation to produce the distribution of particles claimed by the applicant using the voltage

applications suggested by the applicant. This claimed driving apparatus and associated driving method appear to be suggested solely by the applicant's disclosure.

8. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JASON MANDEVILLE whose telephone number is (571)270-3136. The examiner can normally be reached on Monday through Friday 7:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alexander Eisen can be reached on 571-272-7687. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jason Mandeville
Primary Examiner
Art Unit 2629

/Jason Mandeville/
Primary Examiner, Art Unit 2629